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## **Abstract**

The present invention relates to a receiving apparatus (1) for receiving signals in a digital telecommunication system and a synchronising method for synchronising such a receiving apparatus (1). The receiving apparatus (1) comprises receiving means (2, 3) for receiving a reference symbol comprising at least two repetition patterns, whereby one of said at least two repetition patterns is phase-shifted in relation to the other repetition pattern, and synchronising means (5) for synchronising the receiving apparatus (1) in the digital telecommunication system using said received reference symbol. The synchronising means (5) comprises a cross correlation means (16, 24) for cross correlating at least one of said two repetition patterns within a cross correlation window having a predetermined length. Hereby, the performance and the accuracy of a cross correlation peak detection can be enhanced for improved synchronisation.

20 (Figure 6)